MATH 125 Finance Formula Sheet

Simple Interest

$$I = Prt$$

$$A = P(1 + rt)$$

Compound Interest

$$A = P\left(1 + \frac{r}{n}\right)^{nt}$$

$$P = \frac{A}{\left(1 + \frac{r}{n}\right)^{nt}}$$

$$APY = \left[\left(1 + \frac{r}{n}\right)^{n} - 1\right] \cdot 100$$

$$A = Pe^{rt}$$

Annuities

Future Value:

$$FV = PMT \cdot \frac{\left[\left(1 + \frac{r}{n}\right)^{nt} - 1\right]}{\left(\frac{r}{n}\right)}$$

$$PMT = FV \cdot \frac{\left(\frac{r}{n}\right)}{\left[\left(1 + \frac{r}{n}\right)^{nt} - 1\right]}$$

Present Value:

$$PMT = P \cdot \frac{\left(\frac{r}{n}\right)}{\left[1 - \left(1 + \frac{r}{n}\right)^{-nt}\right]}$$

$$P = PMT \cdot \frac{\left[1 - \left(1 + \frac{r}{n}\right)^{-nt}\right]}{\left(\frac{r}{n}\right)}$$

Credit Cards

$$R = \frac{-\log\left[1 - \frac{r}{n}\left(\frac{A}{PMT}\right)\right]}{\log\left(1 + \frac{r}{n}\right)}$$